WHAT IS CLAIMED IS:

1. A method for aligning message data bits in positioning signals received at a ranging receiver, the positioning signals comprising a plurality of epochs, the method comprising:

combining, for each of a plurality of stacks, a specified number of sub-stacks into the stack, each sub-stack comprising a specified number of epochs;

grouping the stacks into pairs of stacks, each pair of stacks comprising a first stack and a second stack, the epochs included in the first stack adjacent to the epochs included in the second stack;

summing, for each pair of stacks, the first stack and the second stack to generate a first result stack;

subtracting, for each pair of stacks, the second stack from the first stack to generate a second result stack;

evaluating the first result stacks and the second result stacks to identify pseudorange peaks; and

aligning the message data bits based on a magnitude of the identified pseudorange peaks.

2. The method of Claim 1, evaluating the first result stacks and the second result stacks to identify pseudorange peaks comprising determining which of the first and second result stacks has a greater absolute value.

3. The method of Claim 2, evaluating the first result stacks and the second result stacks to identify pseudorange peaks further comprising determining a sign for the corresponding message data based on a polarity for the result having the greater absolute value.

4. The method of Claim 1, the specified number of epochs comprising five and the specified number of sub-stacks comprising four.

5. The method of Claim 1, the specified number of epochs comprising four the specified number of sub-stacks comprising five.

6. The method of Claim 1, each message data bit comprising twenty epochs.

7. A system for aligning message data bits in positioning signals received at a ranging receiver, the positioning signals comprising a plurality of epochs, the system comprising:

a computer-processable medium; and

logic stored on the computer-processable medium, the logic operable to combine, for each of a plurality of stacks, a specified number of sub-stacks into the stack, each sub-stack comprising a specified number of epochs; to group the stacks into pairs of stacks, each pair of stacks comprising a first stack and a second stack, the epochs included in the first stack adjacent to the epochs included in the second stack; to sum, for each pair of stacks, the first stack and the second stack to generate a first result stack; to subtract, for each pair of stacks, the second stack from the first stack to generate a second result stack; to evaluate the first result stacks and the second result stacks to identify pseudorange peaks; and to align the message data bits based on a magnitude of the identified pseudorange peaks.

8. The system of Claim 7, the logic operable to evaluate the first result stacks and the second result stacks to identify pseudorange peaks by determining which of the first and second result stacks has a greater absolute value.

9. The system of Claim 8, the logic further operable to evaluate the first result stacks and the second result stacks to identify pseudorange peaks by determining a sign for the corresponding message data based on a polarity for the result having the greater absolute value.

10. The system of Claim 7, the specified number of epochs comprising five and the specified number of sub-stacks comprising four.

11. The system of Claim 7, the specified number of epochs comprising four and the specified number of sub-stacks comprising five.

12. The system of Claim 7, each message data bit comprising twenty epochs.

13. A system for aligning message data bits in positioning signals received at a ranging receiver, the positioning signals comprising a plurality of epochs, the system comprising:

means for combining, for each of a plurality of stacks, a specified number of sub-stacks into the stack, each sub-stack comprising a specified number of epochs;

means for grouping the stacks into pairs of stacks, each pair of stacks comprising a first stack and a second stack, the epochs included in the first stack adjacent to the epochs included in the second stack;

means for summing, for each pair of stacks, the first stack and the second stack to generate a first result stack;

means for subtracting, for each pair of stacks, the second stack from the first stack to generate a second result stack;

means for evaluating the first result stacks and the second result stacks to identify pseudorange peaks; and

means for aligning the message data bits based on a magnitude of the identified pseudorange peaks.

14. The system of Claim 13, the means for evaluating the first result stacks and the second result stacks to identify pseudorange peaks comprising means for determining which of the first and second result stacks has a greater absolute value.

15. The system of Claim 14, the means for evaluating the first result stacks and the second result stacks to identify pseudorange peaks further comprising means for determining a sign for the corresponding message data based on a polarity for the result having the greater absolute value.

16. The system of Claim 13, the specified number of epochs comprising five and the specified number of sub-stacks comprising four.

17. The system of Claim 13, the specified number of epochs comprising four and the specified number of sub-stacks comprising five.

18. The system of Claim 13, each message data bit comprising twenty epochs.

19. A method for aligning message data bits in positioning signals received at a ranging receiver, the positioning signals comprising a plurality of epochs, the method comprising:

combining, for each of a plurality of partial stacks, a first specified number of epochs;

combining, for each of a plurality of refining epochs, a second specified number of epochs;

generating a plurality of stacks, each stack comprising a partial stack and a specified number of refining epochs;

grouping the stacks into pairs of stacks, each pair of stacks comprising a first stack and a second stack, the epochs included in the first stack adjacent to the epochs included in the second stack;

adding, for each pair of stacks, the first stack and the second stack to generate a first result stack;

adding, for each pair of stacks, a refining epoch adjacent to a beginning of the first stack to the first result stack to generate a second result stack;

subtracting, for each pair of stacks, a refining epoch at an end of the second stack from the second result stack to generate a third result stack;

adding, for each pair of stacks, a refining epoch adjacent to the end of the second stack to the first result stack to generate a fourth result stack;

subtracting, for each pair of stacks, a refining epoch at the beginning of the first stack from the fourth result stack to generate a fifth result stack;

evaluating the third result stacks and the fifth result stacks to identify pseudorange peaks; and

aligning the message data bits based on a magnitude of the identified pseudorange peaks.

20. The method of Claim 19, evaluating the third result stacks and the fifth result stacks to identify pseudorange peaks comprising determining which of the third and fifth result stacks has a greater absolute value.

21. The method of Claim 20, evaluating the third result stacks and the fifth result stacks to identify pseudorange peaks further comprising determining a sign for the corresponding message data based on a polarity for the result having the greater absolute value.

22. The method of Claim 19, the first specified number of epochs comprising sixteen, the second specified number of epochs comprising two, and the specified number of refining epochs comprising four.

23. A method for aligning message data bits in positioning signals received at a ranging receiver, the positioning signals comprising a plurality of epochs, the method comprising:

generating a plurality of sub-stacks, each sub-stack based on a specified number of epochs;

combining a specified number of sub-stacks into each of a plurality of stacks;

grouping the stacks into pairs of stacks;

determining a sum and a difference for each pair of stacks;

correlating the sums and differences with a Gold code for each satellite to determine pseudorange peaks; and

determining coarse alignment based on a magnitude of the pseudorange peaks.

24. The method of Claim 23, further comprising:

identifying partial stacks and refining epochs based on the epochs;

combining a partial stack and a specified number of refining epochs into each of a plurality of stacks;

determining epoch sums for the refining epochs;

shifting the stacks based on the refining epochs; and

determining refined alignment based on the shifted stacks.

25. A method for predicting satellite message data received in positioning signals at the ranging receiver from a plurality of satellites in a satellite constellation, comprising:

obtaining a current superframe for the satellite constellation;

obtaining a current time of day based on the satellite constellation;

generating a common table operable to store data common to each satellite;

generating, for each of the satellites, a unique table operable to store data unique to the satellite; and

predicting, for one of the satellites, satellite message data based on the current time of day, the common table and the unique table for the satellite.

26. The method of Claim 25, the data unique to the satellite comprising at least one of ephemeris data, telemetry data, tropospheric data, and ionospheric propagation models.

27. The method of Claim 25, obtaining a current superframe for the satellite constellation comprising obtaining the current superframe from at least one of the satellites.

28. The method of Claim 25, obtaining a current superframe for the satellite constellation comprising obtaining the current superframe from a geolocation processor.

29. The method of Claim 28, obtaining the current superframe from the geolocation processor comprising obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

30. The method of Claim 25, predicting the satellite message data comprising identifying the satellite and a time interval for the predicted satellite message data.

31. The method of Claim 30, predicting the satellite message data further comprising:

generating a message fragment table;

including data from the common table in the message fragment table;

including data from the unique table for the identified satellite in the message fragment table; and

including time-dependent data in the message fragment table.

32. A system for predicting satellite message data received in positioning signals at the ranging receiver from a plurality of satellites in a satellite constellation, comprising:

a computer-processable medium; and

logic stored on the computer-processable medium, the logic operable to obtain a current superframe for the satellite constellation, to obtain a current time of day based on the satellite constellation, to generate a common table operable to store data common to each satellite, to generate, for each of the satellites, a unique table operable to store data unique to the satellite, and to predict, for one of the satellites, satellite message data based on the current time of day, the common table and the unique table for the satellite.

33. The system of Claim 32, the data unique to the satellite comprising at least one of ephemeris data, telemetry data, tropospheric data, and ionospheric propagation models.

34. The system of Claim 32, the logic operable to obtain a current superframe for the satellite constellation by obtaining the current superframe from at least one of the satellites.

35. The system of Claim 32, the logic operable to obtaining a current superframe for the satellite constellation by obtaining the current superframe from a geolocation processor.

36. The system of Claim 35, the logic further operable to obtain the current superframe from the geolocation processor by obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

37. The system of Claim 32, the logic operable to predict the satellite message data by identifying the satellite and a time interval for the predicted satellite message data.

38. The system of Claim 32, the logic further operable to predict the satellite message data by generating a message fragment table, including data from the common table in the message fragment table, including data from the unique table for the identified satellite in the message fragment table, and including time-dependent data in the message fragment table.

39. A system for predicting satellite message data received in positioning signals at the ranging receiver from a plurality of satellites in a satellite constellation, comprising:

means for obtaining a current superframe for the satellite constellation;

means for obtaining a current time of day based on the satellite constellation;

means for generating a common table operable to store data common to each satellite;

means for generating, for each of the satellites, a unique table operable to store data unique to the satellite; and

means for predicting, for one of the satellites, satellite message data based on the current time of day, the common table and the unique table for the satellite.

40. The system of Claim 39, the data unique to the satellite comprising at least one of ephemeris data, telemetry data, tropospheric data, and ionospheric propagation models.

41. The system of Claim 39, the means for obtaining a current superframe for the satellite constellation comprising means for obtaining the current superframe from at least one of the satellites.

42. The system of Claim 39, the means for obtaining a current superframe for the satellite constellation comprising means for obtaining the current superframe from a geolocation processor.

43. The system of Claim 42, the means for obtaining the current superframe from the geolocation processor comprising means for obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

44. The system of Claim 39, the means for predicting the satellite message data comprising means for identifying the satellite and a time interval for the predicted satellite message data.

45. The system of Claim 44, the means for predicting the satellite message data further comprising:

means for generating a message fragment table;

means for including data from the common table in the message fragment table;

means for including data from the unique table for the identified satellite in the message fragment table; and

means for including time-dependent data in the message fragment table.

46. A method for determining a calibration location estimate at a ranging receiver receiving positioning signals from a plurality of satellites in a satellite constellation, the method comprising:

detecting an initial trigger;

obtaining a current superframe for the satellite constellation;

collecting samples for carrier frequency offset (CFO) extraction;

determining whether CFO extraction was successful;

estimating a pseudorange in a stand-alone mode when the CFO extraction is successful;

obtaining a current time of day; and

determining a calibration location estimate based on the pseudorange estimate and the current time of day.

47. The method of Claim 46, further comprising determining a receiver bias for the ranging receiver based on geometric data.

48. The method of Claim 47, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver.

49. The method of Claim 46, determining a receiver bias for the ranging receiver comprising determining a receiver bias based on actual Doppler frequency shifts for the positioning signals and based on extracted CFOs.

50. The method of Claim 46, further comprising:

setting a recalibration timer; and

generating a recalibration trigger when the recalibration timer expires a specified amount of time after the recalibration timer is set, the recalibration trigger operable to initiate a recalibration process.

51. The method of Claim 50, the specified amount of time comprising approximately ten minutes.

52. The method of Claim 50, the specified amount of time dynamically determined based on comparisons of consecutive location estimates.

53. The method of Claim 46, further comprising:

setting an initial timer when the CFO extraction is successful; and

generating an initial trigger when the initial timer expires a specified amount of time after the initial timer is set, the initial trigger operable to initiate a calibration process.

54. The method of Claim 46, the specified amount of time comprising approximately ten minutes.

55. The method of Claim 46, obtaining a current superframe for the satellite constellation comprising obtaining the current superframe from at least one of the satellites.

56. The method of Claim 46, obtaining a current superframe for the satellite constellation comprising obtaining the current superframe from a geolocation processor.

57. The method of Claim 56, obtaining the current superframe from the geolocation processor comprising obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

58. A system for determining a calibration location estimate at a ranging receiver receiving positioning signals from a plurality of satellites in a satellite constellation, the system comprising:

a computer-processable medium; and

logic stored on the computer-processable medium, the logic operable to detect an initial trigger, to obtain a current superframe for the satellite constellation, to collect samples for carrier frequency offset (CFO) extraction, to determine whether CFO extraction was successful, to estimate a pseudorange in a stand-alone mode when the CFO extraction is successful, to obtain a current time of day, and to determine a calibration location estimate based on the pseudorange estimate and the current time of day.

59. The system of Claim 58, the logic further operable to determine a receiver bias for the ranging receiver based on geometric data.

60. The system of Claim 59, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver.

61. The system of Claim 59, the logic operable to determine a receiver bias for the ranging receiver by determining a receiver bias based on actual Doppler frequency shifts for the positioning signals and based on extracted CFOs.

62. The system of Claim 58, the logic further operable to set a recalibration timer and to generate a recalibration trigger when the recalibration timer expires a specified amount of time after the recalibration timer is set, the recalibration trigger operable to initiate a recalibration process.

63. The system of Claim 62, the specified amount of time comprising approximately ten minutes.

64. The system of Claim 62, the specified amount of time dynamically determined based on comparisons of consecutive location estimates.

65. The system of Claim 58, the logic further operable to set an initial timer when the CFO extraction is successful and to generate an initial trigger when the initial timer expires a specified amount of time after the initial timer is set, the initial trigger operable to initiate a calibration process.

66. The system of Claim 65, the specified amount of time comprising approximately ten minutes.

67. The system of Claim 58, the logic operable to obtain a current superframe for the satellite constellation by obtaining the current superframe from at least one of the satellites.

68. The system of Claim 58, the logic operable to obtain a current superframe for the satellite constellation by obtaining the current superframe from a geolocation processor.

69. The system of Claim 68, the logic further operable to obtain the current superframe from the geolocation processor by obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

70. A system for determining a calibration location estimate at a ranging receiver receiving positioning signals from a plurality of satellites in a satellite constellation, the system comprising:

means for detecting an initial trigger;

means for obtaining a current superframe for the satellite constellation;

means for collecting samples for carrier frequency offset (CFO) extraction;

means for determining whether CFO extraction was successful;

means for estimating a pseudorange in a stand-alone mode when the CFO extraction is successful;

means for obtaining a current time of day; and

means for determining a calibration location estimate based on the pseudorange estimate and the current time of day.

71. The system of Claim 70, further comprising means for determining a receiver bias for the ranging receiver based on geometric data.

72. The system of Claim 71, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver.

73. The system of Claim 71, the means for determining a receiver bias for the ranging receiver comprising means for determining a receiver bias based on actual Doppler frequency shifts for the positioning signals and based on extracted CFOs.

74. The system of Claim 70, further comprising:

means for setting a recalibration timer; and

means for generating a recalibration trigger when the recalibration timer expires a specified amount of time after the recalibration timer is set, the recalibration trigger operable to initiate a recalibration process.

75. The system of Claim 74, the specified amount of time comprising approximately ten minutes.

76. The system of Claim 74, the specified amount of time dynamically determined based on comparisons of consecutive location estimates.

77. The system of Claim 70, further comprising:

means for setting an initial timer when the CFO extraction is successful; and

means for generating an initial trigger when the initial timer expires a specified amount of time after the initial timer is set, the initial trigger operable to initiate a calibration process.

78. The system of Claim 77, the specified amount of time comprising approximately ten minutes.

79. The system of Claim 70, the means for obtaining a current superframe for the satellite constellation comprising means for obtaining the current superframe from at least one of the satellites.

80. The system of Claim 70, the means for obtaining a current superframe for the satellite constellation comprising means for obtaining the current superframe from a geolocation processor.

81. The system of Claim 80, the means for obtaining the current superframe from the geolocation processor comprising means for obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

82. A method for determining a location estimate at a ranging receiver receiving positioning signals from a plurality of satellites in a satellite constellation, the method comprising:

detecting a non-initial trigger;

obtaining a current superframe for the satellite constellation, the superframe comprising ephemeris data for the satellite constellation;

collecting samples for carrier frequency offset (CFO) extraction;

determining whether CFO extraction was successful;

estimating a pseudorange in a stand-alone mode when the CFO extraction is successful;

obtaining a current time of day; and

determining a location estimate based on the pseudorange estimate and the current time of day.

83. The method of Claim 82, further comprising determining a receiver bias for the ranging receiver based on geometric data.

84. The method of Claim 83, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver.

85. The method of Claim 83, determining a receiver bias for the ranging receiver comprising determining a receiver bias based on actual Doppler frequency shifts for the positioning signals and based on extracted CFOs.

86. The method of Claim 82, obtaining a current superframe for the satellite constellation comprising obtaining the current superframe from at least one of the satellites.

87. The method of Claim 82, obtaining a current superframe for the satellite constellation comprising obtaining the current superframe from a geolocation processor.

88. The method of Claim 87, obtaining the current superframe from the geolocation processor comprising obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

89. The method of Claim 82, further comprising:

estimating a pseudorange in a geometric mode when the CFO extraction is unsuccessful;

determining a time of day associated with the pseudorange estimate; and

determining a location estimate based on the pseudorange estimate, the time of day associated with the pseudorange estimate, and the ephemeris data.

90. The method of Claim 89, estimating a pseudorange in a geometric mode comprising obtaining geometric data, estimating a CFO for each satellite, and obtaining message data fragments for each satellite.

91. The method of Claim 90, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver and approximate location data for the ranging receiver.

92. The method of Claim 91, the geometric data comprising a cell site identification for a wireless device comprising the ranging receiver.

93. The method of Claim 91, the geometric data comprising a prior location fix.

94. The method of Claim 89, obtaining a current superframe for the satellite constellation comprising obtaining the current superframe from a geolocation processor.

95. The method of Claim 89, obtaining the current superframe from the geolocation processor comprising obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

96. A system for determining a location estimate at a ranging receiver receiving positioning signals from a plurality of satellites in a satellite constellation, the system comprising:

a computer-processable medium; and

logic stored on the computer-processable medium, the logic operable to detect a non-initial trigger, to obtain a current superframe for the satellite constellation, the superframe comprising ephemeris data for the satellite constellation, to collect samples for carrier frequency offset (CFO) extraction, to determine whether CFO extraction was successful, to estimate a pseudorange in a stand-alone mode when the CFO extraction is successful, to obtain a current time of day, and to determine a location estimate based on the pseudorange estimate and the current time of day.

97. The system of Claim 96, the logic further operable to determine a receiver bias for the ranging receiver based on geometric data.

98. The system of Claim 97, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver.

99. The system of Claim 97, the logic operable to determine a receiver bias for the ranging receiver by determining a receiver bias based on actual Doppler frequency shifts for the positioning signals and based on extracted CFOs.

100. The system of Claim 96, the logic operable to obtain a current superframe for the satellite constellation by obtaining the current superframe from at least one of the satellites.

101. The system of Claim 96, the logic operable to obtain a current superframe for the satellite constellation by obtaining the current superframe from a geolocation processor.

102. The system of Claim 101, the logic operable to obtain the current superframe from the geolocation processor by obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

103. The system of Claim 96, the logic further operable to estimate a pseudorange in a geometric mode when the CFO extraction is unsuccessful, to determine a time of day associated with the pseudorange estimate, and to determine a location estimate based on the pseudorange estimate, the time of day associated with the pseudorange estimate, and the ephemeris data.

104. The system of Claim 103, the logic operable to estimate a pseudorange in a geometric mode by obtaining geometric data, estimating a CFO for each satellite, and obtaining message data fragments for each satellite.

105. The system of Claim 104, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver and approximate location data for the ranging receiver.

106. The system of Claim 105, the approximate location data comprising a cell site identification for a wireless device comprising the ranging receiver.

107. The system of Claim 105, the approximate location data comprising a prior location fix.

108. The system of Claim 103, the logic operable to obtain a current superframe for the satellite constellation by obtaining the current superframe from a geolocation processor.

109. The system of Claim 108, the logic further operable to obtain the current superframe from the geolocation processor by obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

110. A system for determining a location estimate at a ranging receiver receiving positioning signals from a plurality of satellites in a satellite constellation, the system comprising:

means for detecting a non-initial trigger;

means for obtaining a current superframe for the satellite constellation, the superframe comprising ephemeris data for the satellite constellation;

means for collecting samples for carrier frequency offset (CFO) extraction;

means for determining whether CFO extraction was successful;

means for estimating a pseudorange in a stand-alone mode when the CFO extraction is successful;

means for obtaining a current time of day; and

means for determining a location estimate based on the pseudorange estimate and the current time of day.

111. The system of Claim 110, further comprising means for determining a receiver bias for the ranging receiver based on geometric data.

112. The system of Claim 111, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver.

113. The system of Claim 111, the means for determining a receiver bias for the ranging receiver comprising means for determining a receiver bias based on actual Doppler frequency shifts for the positioning signals and based on extracted CFOs.

114. The system of Claim 110, the means for obtaining a current superframe for the satellite constellation comprising means for obtaining the current superframe from at least one of the satellites.

115. The system of Claim 110, the means for obtaining a current superframe for the satellite constellation comprising means for obtaining the current superframe from a geolocation processor.

116. The system of Claim 115, the means for obtaining the current superframe from the geolocation processor further comprising means for obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.

117. The system of Claim 110, further comprising:

means for estimating a pseudorange in a geometric mode when the CFO extraction is unsuccessful;

means for determining a time of day associated with the pseudorange estimate; and

means for determining a location estimate based on the pseudorange estimate, the time of day associated with the pseudorange estimate, and the ephemeris data.

118. The system of Claim 117, the means for estimating a pseudorange in a geometric mode comprising means for obtaining geometric data, means for estimating a CFO for each satellite, and means for obtaining message data fragments for each satellite.

119. The system of Claim 118, the geometric data comprising satellite message data in the positioning signals received at the ranging receiver and approximate location data for the ranging receiver.

120. The system of Claim 119, the approximate location data comprising a cell site identification for a wireless device comprising the ranging receiver.

121. The system of Claim 119, the approximate location data comprising a prior location fix.

122. The system of Claim 117, the means for obtaining a current superframe for the satellite constellation comprising means for obtaining the current superframe from a geolocation processor.

123. The system of Claim 122, the means for obtaining the current superframe from the geolocation processor further comprising means for obtaining the superframe from the geolocation processor over a voice channel for a wireless device comprising the ranging receiver.